connected with the migrations of fishes. At the same time, he said, it would not do to be too ambitious. The extravagant expectations which were held some years ago as to the beneficent effects of sea-fish hatcheries had not been realised either in America, in Scotland or in Norway. Even if the idea were sound, the actual plan of operation needed modification, since the young fish were being turned into the sea at too early an age. Moreover, he asked, would it not be simpler, and in the end more profitable, to complete the investigation of the whole life-history of valuable fishes before launching upon costly and problematic schemes of fish multiplication? To ensure the adequate discussion of these and similar problems, the President, in conclusion, expressed the intention of himself and his colleagues to propose the creation of a permanent international committee for the organisation of future congresses on sea-fisheries, which would extend and complete the work initiated by the French Society.

The subsequent discussions of the congress took place partly at general meetings, partly at the meetings of different sections. Four of the latter were constituted, viz. (1) Scientific Researches; (2) Fishery Apparatus, Preparation and Transport; (3) Technical Education, and (4) Fishery Regulations. The subjects which came before the general meetings dealt with oyster and mussel culture, provident institutions (insurance against accidents, &c.), international regulations for preventing collisions at sea, and co-operation amongst fishermen. As regards the sectional meetings, the topics of general interest naturally fell chiefly within the scope of the first and fourth sections. In the first section the following were the more important papers read: (1) On the natural history and fishing grounds of the Tunny in the Gulf of Gascony, by M. Odin, in which the author showed that the migrations of the Tunny of these waters are less extensive than was formerly imagined, since the fish can be taken in the Gulf throughout the year, although the actual fishing grounds shift with the seasons; (2) On the natural history of the mackerel, by Mr. W. Garstang, in which it was maintained that, as a result of researches recently carried out by the Marine Biological Association, the common species of mackerel can be subdivided into several local races, viz. an American, an Irish, and a race common to the English Channel and North Sea. These researches lead to the conclusion that the winter haunts of the mackerel cannot be situated far from the localities first visited by the several races in the spring; (3) On a proposed biological and physical investigation of the English Channel during 1899, by Mr. Garstang, in which the author invited the co-operation of French societies and naturalists with the Marine Biological Association for a joint periodic survey of the Channel during the coming year. The proposal was supported by Baron Jules de Guerne and M. Odin, and a resolution on the subject was unanimously adopted; (4) On the sea-fish hatchery at Flodevigen, by Captain Dannevig (read in his absence by Baron de Guerne). This paper gave rise to a vigorous discussion on the efficacy of hatcheries. Captain Dannevig contended that the success of his methods was attested by the statistics of cod taken in Christiania Fjord, but this statement was categorically denied by Dr. Brunchorst, and also adversely criticised by Dr. Fullarton and M. Canu.

The principal papers read in the fourth section were as follows: (1) On trawling in territorial waters, by M. Sauton; (2) On the necessity of new regulations concerning the mesh of drift and fixed nets, by M. Maraud; (3) Trawling and its effects, by M. Coutant; (4) On the territorial limits, by Mr. Olsen. The discussion which followed these papers was long and interesting, but cannot be fully summarised here. It will suffice, however, to say that at the subsequent general meeting of the congress a resolution against trawling (of all kinds) within three miles from low-water mark was carried by 37 votes to 9; and that other resolutions were carried which would have for effect the prohibition of certain kinds of fishing beyond the present territorial limits, and would prohibit the sale of immature fish, the *minimum* size for each species to be fixed hereafter by an international commission of fishermen, owners, public officials, and scientific experts.

It may be stated in conclusion that the memoirs read before the general meetings of the congress are already published (Paris, Augustin Challamel, Rue Jacob 17), and that the papers communicated to the different sections, with the final resolutions of the congress, will be published in a second volume in the course of the next few months.

NOTES.

WE are reminded that the new laboratories of Physiology and Pathology, which University College, Liverpool, owes to the generosity of the Rev. S. A. Thompson Yates, will be opened on October 8 by Lord Lister, President of the Royal Society. By his benefaction, Mr. Thompson Yates has strengthened the medical school of the College in a very marked degree, and has enabled the professors of physiology and pathology to take advantage of the most recent additions to our knowledge in their lectures and laboratory instruction. Lord Lister will be accompanied on the occasion by a large and distinguished party. The Lord Mayor will represent the city; Earl Spencer, Chancellor of the Victoria University, has promised to attend and admit Lord Lister to the degree of D.Sc. conferred on him by the Victoria University; Lord Derby, President of the College, will be present, with the authorities of the Victoria University and its Colleges. Among those who have accepted the invitation of the College Council may be mentioned: the Duke of Devonshire, Lord Derby, Lord Spencer, Lord Ripon, Lord Kelvin, Mr. A. J. Balfour, Prof. Michael Foster and Prof. Rücker (the Secretaries of the Royal Society), Prof. Virchow, Sir Douglas Galton, Sir Samuel Wilks, Sir Richard Thorne, the Bishops of Liverpool, Chester, Carlisle, and Ripon, Sir William Gairdner, Mr. Justice Kennedy, Sir James Crichton Browne, Dr. Lauder Brunton, Sir Archibald Geikie, Captain Abney, C.B., Sir George King, Mr. Thiselton-Dyer, Prof. Ramsay, Prof. David Ferrier, Dr. Pavy, Mr. R. B. Haldane, Sir John Batty Tuke, Sir Henry Littlejohn, Prof. Schäfer, Prof. Burdon-Sanderson, Prof. Kanthack, Prof. Halliburton, Prof. Meldola, Prof. Poulton, the Dean of Lichfield, Prof. Charlton Bastian, the Hon. Sydney Holland, Prof. Rose Bradford, Prof. Forsyth, Prof. Bower, Dr. Alexander Cope, Prof. Crookshank, Prof. Waller, Prof. Noël Paton, Dr. Ludwig Mond, Dr. Mott, Prof. Stirling, Prof. Liveing, Mr. Gerald Yeo, Prof. Macallum, and Dr. Byrom Bramwell. The proceedings will commence with the degree ceremony, which will take place in St. George's Hall at 3 o'clock. Lord Lister will then, with the President, Earl Derby, proceed to open the new laboratories. In the evening a banquet will be given by the Lord Mayor in the City Hall.

ON Sunday, the 11th inst., one of the most destructive hurricanes that has occurred for many years visited Barbados and the Windward Islands, causing immense damage to property and great loss of life. These storms usually occur between July and October, when the equatorial calms are furthest north of the equator; the late A. Poey, of Havana, compiled a list of all hurricanes observed in the West Indies since 1493, and of these nearly 80 per cent. occurred in those months. They usually commence to the eastward, and travel in a north-westerly direction till they reach about latitude 25° N., when they recurve in a north-easterly direction. So far as is known from the meagre reports which have yet been received, this disastrous storm followed the usual track, as the observer of the United States Weather Bureau at Jamaica seems to have forwarded notice through New York that a storm was approaching Barbados from the southward on Saturday, the 10th inst.; but, owing to an unfortunate interruption in the cable, the warning arrived too late. The late Rev. B. Viñes, S.J., formerly director of Havana Observatory, made a special study of West Indian hurricanes during a period extending over twenty-three years, and shortly before his death (in 1893) prepared a paper upon the subject for the Meteorological Congress at Chicago, which is regarded as the most satisfactory statement of the behaviour of these storms that has yet been made. This paper has just been published in a separate form by the United States Weather Bureau. In it the author discusses very completely the general laws of cyclonic circulation and translation, including the law of the recurving of the path of the hurricanes in the different months of the cyclonic season.

The Press Association states that on Thursday last Mr. Stanley Spencer and Dr. Berson ascended from the Crystal Palace in a balloon inflated with pure hydrogen gas, and attained the remarkable altitude of 27,500 feet, or only 1500 feet less than Coxwell and Glaisher's highest in 1862. Numerous scientific instruments, including a self-recording aneroid barometer, were carried, and also compressed oxygen for inhaling at the greatest height. The descent was near Romford. At 25,000 feet the air became so rarefied that both explorers had to breathe the compressed oxygen taken with them. The balloon had a capacity of 56,500 cubic feet.

It is reported through Reuter's Agency that a stream of lava from Vesuvius has destroyed a part of the roadway leading from the observatory to the lower station of the funicular railway. A mass of molten rock is flowing down the mountain side in three streams—one along the foot of Monte Somma, a second through the middle of the Vetrana zone, and a third along Monte Crocella. The stream running round the base of Monte Somma continues to burn the chestnut woods, and nearly reaches the observatory. The central flow has reached a point close to the Carabinier barracks, while the Crocella stream, after passing close to Messrs. Cook and Son's building, has reached the northern edge of the Canteroni ridge, whence it may also threaten the observatory. News from Naples on Saturday states that the eruption is becoming hourly more active and more menacing, and the streams of molten lava are spreading in every direction. The most threatening is that which is flowing down the immense valley of Vedrino, which is now almost filled. The observatory, which was originally situated at a height of 610 metres, is now said to have sunk over 27 metres owing to the sinking of the ground. Seven new craters have formed round the central crater, without, however, in any way diminishing the activity of the latter. The gravity with which the outbreak is regarded is chiefly based on the fact that the volcano is throwing out stones and scoriæ similar to those ejected in the great eruption of April 1872, when the lava streams covered an area of two square miles, averaging 13 feet in depth, and the damage to property exceeded three million francs.

The Berlin Academy of Science has made the following grants for botanical work:—2000 marks to Prof. Eichler, for the continuation of his work on East African plants; 600 marks to Prof. Graebner for the continuation of his work on German heaths; 500 marks to Dr. Loesner, for the completion of his monograph of the Aquifoliaceæ.

Two Walker prizes, of the value of sixty dollars and fifty dollars respectively, are annually offered by the Boston Society of Natural History for the best memoirs written in the English language on subjects proposed by a committee appointed by the Council. The subjects for 1899 are: (1) Is there fundamental difference between "equation division" and "reduction division" in the division of cells? (2) The phenomena and laws of hybridisation. The subjects for 1900 are: (1) Stratigraphy and correlation of the sedimentary formations of any part of New England. (2) A study in palæozoic stratigraphy and correlation. Memoirs must be sent in on or before April 1 of the year for which the prize is offered.

The Mayor of Angers has appointed M. Albert Gaillard curator of the Lloyd herbarium in that town.

We learn, from the *Botanical Gazette*, that Dr. A. Möller, of Eberswald, has undertaken the preparation of a memoir of Fritz Müller, so well known in connection with the Flora of Brazil, and with problems connected with the pollination of plants.

The death is announced of Dr. H. Trimble, professor of practical chemistry, Philadelphia College of Pharmacy, and editor of the *American Journal of Pharmacy*.

News has been received that Mr. de Windt, the geologist with the Belgian scientific expedition for the exploration of the Congo, was drowned on Lake Tanganyika on August 9, with Mr. Kaisley, a gold prospector.

The *Pall Mall Gazette* announces that Mr. S. A. Rosenthal and Dr. S. J. von Komocki have succeeded in preparing matches which do not contain yellow phosphorus, and are capable of ignition by friction upon any surface. It is claimed that these matches can be manufactured as cheaply as the ordinary ones.

Sir W. Martin Conway has sent to the *Daily Chronicle* the news that on September 9 he reached the top of Yllimani, a peak of the Cordilleras which rises behind the town of La Paz, at a height of 22,500 feet above sea-level. With Sir Martin Conway are the two Swiss guides, Antoine Maquiguez and Louis Pellissier, who last year were in Alaska with the Duke of the Abruzzi, and made the ascent of Mount St. Elias. The party took five days to reach the top of Yllimani from the highest point of cultivation.

Mrs. Hubbard has sent us the following translation of a passage from the "Niva," recording an interesting observation: "The naturalist, Ostrovomov, director of the biological station at Sevastopol, last summer made some excursions along the coast of the Crimea. One morning, the sea being at the time calm and clear and the sky blue, he observed whole clouds of small creatures, like moths, fluttering above the smooth surface of the sea. Ostrovomov, with his son and a boy from the station, observed that each of these small creatures rested for a while on the surface of the water, as though gathering strength; then made a spring and flew high in the air, and plunged again into the sea. They captured some of these, and examined them under the microscope; and what was Ostrovomov's astonishment on discovering that these flying creatures were the soft-shelled crablike *Entomostraca*, belonging to the family *Pontellina mediterranea.*"

The world's record for high kite flight was (says *Science*) broken on August 26 at Mr. Rotch's observatory by Messrs. Clayton and Ferguson, who despatched a tandem of kites into the air until the highest one reached an altitude of 12,124 feet above the sea-level, a height 277 feet greater than any kite had previously reached. Five miles of line, weighing 75 pounds, was let out, while the weight of the kites, recording instruments and secondary line, was 37 pounds, making a total of 112 pounds lifted into the air. The recording instrument was made by Mr. Ferguson and was of aluminum, weighing three pounds, and registering temperature, pressure, humidity and wind velocity. The ascent was begun at 11 o'clock, and the highest point reached at 4.15 p.m. The kites passed through clouds when about a mile above the surface of the earth, but while above the clouds the instruments showed the air to be very dry. At the highest point the temperature had fallen to 38°, and the wind velocity was 32 miles an hour. At the ground at the same time the temperature was 75° and the wind velocity 32 miles. The highest wind velocity recorded was 40 miles an hour at a height of 11,000 feet. The wind on the ground at this time was from the west, while at the highest point reached by the kites it was south-west. The flight was one of a series of high ascents made during the spring and summer, averaging about a mile and a half, while on several occasions a height of over 10,000 feet has been obtained.

THE results of meteorological observations made at Rousdon Observatory, South Devon, under the superintendence of Sir Cuthbert Peek, have been published. Interest in local meteorology is necessarily limited, but there are several sections of the present report which appeal to meteorologists generally. The usual comparison was made of daily forecasts issued by the Meteorological Office for the district in which the Observatory is situated with actual weather experienced. The wind and weather predictions were both correct in 85 per cent. of the forecasts. The forecasts of wind alone were correct in 90 per cent., and 92 per cent. of the weather predictions were fulfilled. The percentage of correct weather forecasts has not been below 92 for the past five years. Sir Cuthbert Peek has made a further comparison of the records of the Robinson cup anemometer and the pressure-tube anemometer. It has been assumed that the factor of the cup anemometer does not depend upon, or vary with, the velocity of the wind. To roughly test this conclusion, a comparison was made of the daily total mileages of wind passing over the Observatory, as recorded by the two instruments, during three periods of about twenty-four days each, when light airs, winds of moderate force, and strong winds, respectively, prevailed. These results show quite clearly the effect of the inertia of the cups in low velocities, the excess of the cup record over that of the pressure-tube being as much as 53 per cent., when the mean hourly velocity is as low as four miles. With a moderate wind of eleven miles per hour, however, the cups yield 3 per cent. less than the pressure-tube; and with a wind of double that velocity the difference is increased to 8 per cent. It is pointed out that these results are based on too few observations to be accepted as final, but they are suggestive, and a fuller comparison on the lines indicated may at some future time be carried out. The factor 2·2 appears, however, to be practically correct for all winds, except when the force is extremely low.

THE two Cantor Lectures delivered before the Society of Arts by Dr. D. Morris, C.M.G., on sources of commercial india-rubber, have been published in a pamphlet form. In his lectures, Dr. Morris confined himself to describing the rubber plants now existing in various parts of the tropics, their geographical distribution, the conditions under which they grow, and the prospects they afford of being able to meet the increasing demand for rubber. At the outset he made a comparison between india-rubber and gutta-percha. It is very well known that india-rubber and gutta-percha are closely allied substances, not only in their origin but also in their chemical composition. They are both obtained from the latex of certain plants, and are composed wholly of carbon and hydrogen. But, as Dr. Morris points out, the similarity ends here. The most conspicuous property of gutta-percha is that of becoming soft and plastic on immersion in hot water, retaining any shape then given to it on cooling, when it becomes hard and rigid. Caoutchouc, on the other hand, does not soften in moderate heat, is impervious to water, alcohol, most acids, and gases, and retains for a long period its original elasticity and strength. Again, gutta-percha is obtained only from large trees belonging to one family of plants, the *Sapotaceæ*, confined to one small portion of the world's surface. Caoutchouc, on the other hand, is obtained from numerous families of plants, and these are distributed over almost every part of the tropical regions; they may be low herbaceous plants, shrubby climbers, small trees, or majestic giants of the forest, 150 to 180 feet high. Dr. Morris's lectures deal with these plants with special reference to the rubber industries connected with our Colonial and Indian possessions; they are, therefore, of great interest at the present time.

IN the *Bulletin International* of the Imperial Academy of Science of Bohemia, Herr Franz Švec discusses the ciliated Infusoria of the Unterpočernitzer Teich, on the banks of which a biological station has been established. Sixty-nine species of Infusoria have been observed, of which ten are new; these are *Holophyra atra*, *Enchelys variabilis*, *Lacrymaria phialina*, *Pyrodon nucleatus*, *Lionotus lanceolatus*, *Loxophyllum aselli*, *Dileptus elephantinus*, *Zoothamnium limneticum*, *Epistylis rotans*, *Rhabdostyla discostyla*.

THE "Communications from the Physical Laboratory at the University of Leiden," published in English under the direction of Prof. Kamerlingh Onnes, afford a striking instance of the activity of foreign Universities in the matter of research. Part 41 contains a paper by Dr. E. van Everdingen, jun., on the Hall-effect in electrolytes. The author has calculated the amount of the effect in liquids, and has compared the results with those afforded by experiments, but it appears that the observed galvanometric differences of potential in liquids differ considerably (sometimes even in sign) from those which would be caused by the Hall phenomenon. For the present, it therefore appears that we cannot use the phenomenon in electrolytes to obtain a better insight into the nature of the electric current in metals.

THE *Proceedings* of the Royal Society of Queensland (vol. xiii.), just published, comprise several papers of interest. In a useful presidential address, Mr. C. J. Pound shows how the stockowner is indebted to the microscope, and explains that "all those marvellous and brilliant discoveries relating to the origin, nature, prevention, and treatment of bacterial diseases of our domesticated animals have been mainly brought about by the investigations of such brilliant epoch-making men as Pasteur, Koch, and Lister, whose names will ever be associated with the microscope and remain as lasting monuments to the science of preventive medicine."—Mr. Walter E. Roth contributes some notes on social and individual nomenclature among certain north Queensland aboriginals, personally studied by him. Mr. Roth points out that the whole question of class-systems, whereby a relationship, such as it is, is established between aboriginals living miles and miles apart, yet may be mutually unknown personally, has an important practical bearing which has hitherto been apparently overlooked. In the mind of the real North-west Central Queensland savage, all white men are believed to be similarly related; he looks upon any one European as being the brother, brother-in-law, father, or mother's brother, &c., of any other.—Mr. Thomas P. Lucus gives descriptions of Queensland lepidoptera, and Mr. Rowland Illidge contributes a list of butterflies of the Brisbane district.

A BRIEF statement of the results of an investigation into the distribution and ethnography of leprosy in the Far East is given by Mr. Sydney B. J. Skertchly in the volume of *Proceedings* referred to in the foregoing note. The area embraced in an inquiry carried out by Mr. Skertchly and Dr. J. Cantlie, extends from the Malay Peninsula, through China, the whole of the East Indian Archipelago, Japan, and the Philippines and the islands of the Pacific; and a large amount of most valuable information as to the distribution of the disease has been obtained. As the area investigated contained every variety of surface, it was easy to determine whether physical configuration was a determining cause of leprosy. The conclusion arrived at is that neither physiographical climate nor geological conditions have any influence upon the distribution of leprosy. Contrary to the general statements, leprosy is not rife throughout the length and breadth of China, entire provinces being free from the disease. An examination of the state of affairs in the Pacific leads to the important conclusion that from the Chinese provinces of Kwantung and Fokien, leprosy spreads with diminishing intensity in all directions, and has formed a new focus in Hawaii of unparalleled virulence. Viewing the facts from an anthropological standpoint, it appears that so far from the black races being the most leprous, and the yellow the least, over the great area dealt with, the black races are quite free from leprosy, except where, as in Fiji, it has been recently introduced; and the yellow race, the Chinese, is the leper and the distributor of leprosy. In not a single instance are the native races attacked without there being Chinese lepers in the country. In other words, leprosy follows the lines of Chinese emigration, and in the East Indian Archipelago and Oceania is co-terminous and co-existent, in time and area, with the Chinese coolie. Mr. Skertchly believes that the only way to stop the spread of leprosy is to put an end to the coolie traffic from the infected provinces, and this cannot be done except by concerted action of the Governments holding possessions in the Far East.

THE Wilde lecture "On the Physical Basis of Psychical Events," delivered by Prof. Michael Foster before the Manchester Literary and Philosophical Society last March, is printed in Manchester *Memoirs*, vol. xlii. (1898), No. 12.

A COPY of "Bourne's Handy Assurance Manual" (1898), edited by Mr. William Schooling, has been received. The volume shows the position of every assurance office, and should be consulted before taking out a policy in any company. Students of statistics will also find the tables useful.

A NINTH edition of Skertchly's "Geology," revised in accordance with the latest requirements of the Science and Art Department's syllabus, has been prepared by Dr. J. Monckman, and published by Mr. Thomas Murby. A new section dealing with minerals and their microscopic characteristics has been added, but the general appearance of the book and the illustrations are behind the times.

THE additions to the Zoological Society's Gardens during the past week include a Ring-tailed Coati (*Nasua rufa*) from South America, presented by Mr. S. C. Rogers; two Little Armadillos (*Dasypus minutus*) from Patagonia, a Vociferous Sea Eagle (*Haliætus vocifer*), a Chameleon (*Chamæleon vulgaris*) from Africa, deposited; a Pleasant Antelope (*Tragelaphus gratus*, ♀), bred in Amsterdam, purchased; a Crested Porcupine (*Hystrix cristata*), three Swinhoe's Pheasants (*Euplocamus swinhoii*), three Mandarin Ducks (*Œx galericulata*), bred in the Gardens.

OUR ASTRONOMICAL COLUMN.

THE NEBULA OF ANDROMEDA.—A telegram from the Centralstelle, Kiel, received here on the 20th, announces that Seraphimoff has observed a stellar-like condensation near the centre of the nebula of Andromeda.

This is not the first time that variations near the centre of this nebula have been observed. In 1885 a star of 6·5 mag. appeared suddenly near the centre, giving a continuous spectrum containing probably a few bright lines; in 1886 this had entirely disappeared. Espin thought that the nucleus was variable, and that he could see stars in it; and Young, with a 23-inch refractor, confirmed this. The fine series of photographs taken by Roberts also indicate that the nucleus of the nebula is variable.

An examination of the nebula on the early morning of the 21st, with the 30-inch reflector of the Solar Physics Observatory, South Kensington, gave the idea that the centre of the nucleus seemed more elongated and was more of a stellar nature than usual. The application of the spectroscope indicated nothing more than a continuous spectrum, although there may have been faint bright lines which could not be seen.

COMETS TEMPEL 1866 AND PERRINE-CHOFARDET.—Just after we had gone to press last week we received another telegram, concerning the comet discovered by Pechuele, saying that it was Wolf's comet and not that of Tempel.

Another telegram, dated September 15, informs us that Perrine, on September 13, discovered a comet at 16h. 14·3m. Lick Mean Time, in position of R.A. 9h. 41m. 40s. and Declination + 30° 36′. Two circulars from Kiel (Nos. 11 and 12), which have since reached us, give the elements of the comet's orbit and an ephemeris for the present month, besides telling us that Chofardet made the same discovery independently at Besançon on September 14, 16h. 37m. local time.

Both the elements calculated by Berberich from observations on September 12, 13, 15, and by Perrine and Aitken from observations on September 13, 14 and 15 are very similar, so we will confine ourselves to the former, whch are namely:—

$$T = 1898 \text{ October } 19{\cdot}9565 \text{ Berlin M.T.}$$

$$\begin{aligned} \omega &= 165^\circ\ 56'{\cdot}29 \\ \Omega &= 36\ \ 20{\cdot}85 \\ i &= 29\ \ 16{\cdot}41 \\ \log q &= 9{\cdot}57608 \end{aligned}$$

For the present month the positions of the comet for every two days are as follows:—

12*h*. *Berlin M.T.*

1898.			R.A. h. m. s.		Decl. ° ′		Br.
Sept.	22	...	10 35 2	...	+25 9·9		
,,	24	...	10 48 3	...	23 32·4	...	2·08
,,	26	...	11 1 11	...	21 46·6		
,,	28	...	11 14 23	...	+19 52·3	...	2·67

CATALOGUE OF NEBULÆ.—Mr. Lewis Swift publishes in a recent number of *Astr. Nachr.* (No. 3517) a catalogue of nebulæ which have been discovered by him during the last three years. All the observations were made at the Lowe Observatory, Echo Mountain, California, the low latitude of this station, namely +34° 20′, enabling him to search further south than when he was situated at Rochester, New York. He says: "I am further south than any observatory in Europe and America north of the equator except the one at Tacubaya, Mexico, yet I find that the southern sky has been pretty thoroughly explored by Sir John Herschel, Dunlop, and others."

The present catalogue contains 243 objects, some of which are very interesting. Thus, Nos. 6 and 27 are described as being very singular. They resemble a fairly bright double star, each component being an exceedingly small nebulous disc "like an imaginary double nebulous Uranus distant about 5″ or 6″."

No. 56 is described as "a nebulous hair-line of one uniform size from end to end," while No. 91 has one side extending like a brush.

In addition to the above, this keen-eyed observer has discovered no less than four comets, one of which is of short period, and his son has discovered a fifth, also of short period.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

THE Calendar of University College, Bristol, for the Session 1898-99 has been published. The College offers excellent opportunities for the study of science, languages, history and literature, and possesses good facilities for giving systematic instruction in the branches of applied science more nearly connected with the arts and manufactures. Medical education is provided by the Faculty of Medicine of the College; and students can complete in Bristol the entire course of study required for the various medical and surgical degrees.

IN order to encourage systematic study, a definite course of instruction extending over three years has been established in the Morley Memorial College (for working men and women), Waterloo Bridge Road. In the first and second years all students will follow almost the same course of study, but in the third year they will take up a selected group of literary, mathematical, or scientific subjects. Organised courses of this kind are of far greater educational value than the study of a large number of disconnected subjects.

MAJOR P. G. CRAIGIE's annual report to the Board of Agriculture on the distribution of grants for agricultural education and research in 1897-98, has just been issued as a Parliamentary paper. The total amount distributed during the financial year to each of the fifteen institutions receiving assistance was 7200*l*., as compared with 7000*l*. in the previous year. The following table shows how this money was expended:—